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Report of the
Ontario Council
of Health on

1970
Supplement No. 4

Report of the archives - Supplementary



Library and Information Services

Library Personnel
Manpower and Education

Ontario Department of Health
Honourable A. B. R. Lawrence, M.C., Q.C., Minister



ONTARIO

REPORT OF
THE ONTARIO
COUNCIL OF HEALTH

**LIBRARY AND
INFORMATION
SERVICES**

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1970

SUPPLEMENT NO. 4

ONTARIO DEPARTMENT OF HEALTH
Bureau 11 A. R. B. Landon, M.C., O.C., M.D.

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THE ONTARIO COUNCIL OF HEALTH

The Ontario Council of Health was formed in 1966 as the senior advisory body on health matters to the Minister of Health and, through him, to the Government of Ontario. Council submits recommendations designed to support the overall thrust toward improved health services and it serves as a sentinel to ensure effective and economical employment of the human and physical elements required to provide these services.

The members of Council are selected to reflect a reasonable balance of public interest, expert knowledge, experience, and geographic distribution. In keeping with Council's ongoing role, members are appointed for three years on a rotational basis and may be reappointed once.

Council determines its work priorities through assessment of provincial health services requirements, tempered from time to time by more urgent requests. The successful completion of its assignments is dependent upon the able assistance of committees, sub-committees and task forces manned from the ample reservoir of health interest and expertise to be found in individuals throughout Ontario.

MEMBERS OF THE ONTARIO COUNCIL OF HEALTH

K. C. Charron, M.D., LL.D. (ex officio, Chairman)	Deputy Minister of Health and Chief Medical Officer
S. W. Martin, F.C.I.S., F.A.C.H.A. (ex officio, member)	Chairman, Ontario Hospital Services Commission
Miss C. Aikin, R.N., B.A., M.A.	Dean, School of Nursing, University of Western Ontario, London
R. Auld*	Executive Director, Ontario Society for Crippled Children, Toronto
E. H. Botterell, O.B.E., M.D., F.R.C.S. (C)*	Dean, Faculty of Medicine, Vice-Principal (Health Sciences), Queen's University, Kingston
E. A. Dunlop, M.P.P., O.B.E., G.M.	Managing Director, The Canadian Arthritis and Rheumatism Society
W. J. Dunn, D.D.S., F.A.C.D.	Dean, Faculty of Dentistry, University of Western Ontario, London
J. R. Evans, M.D., D.Phil. (Oxon), F.R.C.P. (C), F.A.C.P.	Dean, Faculty of Medicine, Principal, Health Sciences, McMaster University, Hamilton
Mrs. J. P. Forrester, B.A.	Belleville
Rev. R. Guindon, O.M.I., B.A., L.Ph., S.T.D., LL.D.	Recteur, Université d'Ottawa
G. E. Hall, M.S.A., M.D., Ph.D., D.Sc., LL.D., F.R.S.C.	Former President, University of Western Ontario, London

O. Hall, B.A., M.A., Ph.D.	Professor, Department of Sociology, University of Toronto
T. L. Jones, D.V.M., M.Sc.	Former Dean, Ontario Veterinary College, University of Guelph
J. D. Lovering, M.D.*	Medical Director, Gulf Oil Canada Limited, Toronto
R. I. Macdonald, B.A., M.D., C.M., F.R.C.P. (Lond.), F.R.C.P. (C), F.A.C.P.	Consultant in Medicine, Toronto
J. F. Mustard, M.D., Ph.D.	Professor of Pathology, Faculty of Medicine, McMaster University, Hamilton
G. W. Phelps, B.Sc.	Orillia
H. Simon	Regional Director of Organization (Ontario), Canadian Labour Congress, Toronto
W. R. Wensley, B.Sc.Pharm., M.Sc.Pharm.	Registrar, Ontario College of Pharmacy, Toronto
F. A. Wilson, Pharm. B.*	Vice-President, Parke and Parke Limited, Hamilton
<i>W. F. J. Anderson</i> <i>(Executive Secretary)</i>	<i>The Ontario Council of Health,</i> <i>Hepburn Block, Parliament Buildings,</i> <i>Toronto</i>

* Term expired November 1970

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THE ONTARIO COUNCIL OF HEALTH IN 1970

A first "Report on the Activities of the Ontario Council of Health" was published during 1970. It consisted of a summary document with eight separate annexes containing individual committee reports and recommendations as acted upon by Council. The period covered was from Council's formation in 1966 through the calendar year 1969.

SUPPLEMENTS FOR 1970 – GENERAL

The initial report has proven useful to many individuals and groups concerned with the health care of the people of Ontario. It was therefore decided to make available the major committee reports and recommendations which were processed through Council during 1970. This was substantially a continuation of the work initiated during the first report period, relating directly to committees identified in the annexes. Therefore, it was decided to issue the new report in the form of nine separate supplements, of which this document is one. These supplements, cross-referenced to their original annexes by title, are listed below:

Supplement No. 1

Regional Organization of Health Services
Part II – A Proposed System

Supplement No. 2

Health Statistics
Part II – Implementation of a Health Statistics System

Supplement No. 3

Health Manpower
A. The Need for Family Physicians and General Practitioners for the Province of Ontario
B. Assistance for the Primary Care Physician

Supplement No. 4

Library and Information Services
Library Personnel, Manpower and Education

Supplement No. 5
Health Care Delivery Systems
Community Health Care

Supplement No. 6
Health Care Delivery Systems
Rehabilitation Services

Supplement No. 7
Health Care Delivery Systems
Laboratory Systems

Supplement No. 8
Health Care Delivery Systems
Dental Care Services

Supplement No. 9
Health Care Delivery Systems
Role of Computers in the Health Field

1970 SUPPLEMENT – LIBRARY AND INFORMATION SERVICES

The Committee on Library and Information Services presented this report to the Ontario Council of Health in November 1970. Council approved the recommendations as set forth in this report.

In its first report to Council, in June 1969 (Annex "E"), the Committee recommendations outlined a system for incorporating health library resources into a network for efficient information retrieval on behalf of any health worker wherever located. Parenthetically it may be noted that the Committee name has since incorporated the word "Information." The present report concentrates on a scheduled provision of manpower to support the network throughout and after its implementation period.

Aside from recommending types and numbers of workers for the network, the report gives due consideration to certain educational factors involved in training these workers as well as to bursary and like programmes for attracting prospective students. Emphasis is placed on the need for professionals cross-disciplined in any two of library science, life or health sciences, and computer or information retrieval science.

Recent Committee activity has included a development process for a model regional library service. Such a model could be a first step in implementation of the network while evaluating the concept. The committee is also giving consideration to the special problems of health personnel who work in the sparsely settled regions of Northern Ontario.

OTHER AREAS OF COUNCIL ACTIVITY

It will be noted that 1970 supplements to three annexes of the first report have not been issued — Physical Resources, Education of the Health Disciplines, and Health Research:

Physical Resources

In the original annex, the Committee reviewed the current situation and the related services in Ontario which affect physical resources; it highlighted some of the difficulties which exist with respect to the components of the present pattern and made certain recommendations. This completed Council action in this important area, at this stage.

Education of the Health Disciplines

Continued study has been carried out by the Committee. This has been directed primarily toward assessment of the educational requirements for the rehabilitation disciplines and a further report in the area of nursing education. These documents will be completed for presentation to Council in 1971.

Health Research

The Committee on Health Research has continued its work on the definition of the provincial role in health research. It has been devoting its attention particularly to such areas as the economics of health research; the co-ordination of health research programmes within the province, sponsored by both governmental and voluntary agencies; and the personnel support requirements needed to maintain a viable health research programme. It is anticipated that these matters will be completed in 1971.

The Committee has continued to provide direct advice to the Province on applications for financial assistance, through its Sub-committees on Research Grants Review and Demonstration Models.

During 1970, the Council initiated activity and is developing reports in the following areas:

Audio Visual Systems

The Sub-committee on Audio Visual Systems began work in March, looking into provincial requirements for instructional media systems in the education of the health disciplines, health services, and public health education.

Perinatal Problems

The Sub-committee on Perinatal Problems was established in May to give consideration to problems surrounding birth and affecting either/or mother and infant, and developing proposals for improved health services in this area.

Environmental Quality

A primary Committee on Environmental Quality was set up in October to make recommendations to the government on all matters related to the quality of the human environment, with special consideration to the health and well-being of people.

Future Arrangements for Health Education

In November, Council approved the establishment of a task force to investigate the need for a new medical school/health sciences centre, giving due consideration to new approaches to health education. The relation of health education to health services and the effect of this on the community, not the projected manpower requirements alone, will provide the basis for the study.

Two other undertakings by Council should be noted:

Committee on the Healing Arts Review

A special request was made to Council in June to review the Report of the Committee on the Healing Arts. A review group was established and it reported to Council in November. It proposed certain basic principles related to the regulation and education of the health disciplines and these, as approved by Council, were submitted to the Minister of Health.

Conference on Co-operation in the Provision of Health Services

In April, Council took an active part in a Conference on Co-operation in the Provision of Health Services, sponsored by provincial bodies representing the various health disciplines, consumers, and the Department of Health. In the public interest, it is Council's policy to consult freely with representatives of health professions, related organizations, and others who share the common bond of seeking the best possible health services for the people of Ontario. This process also occurs as part of the work of the committees of Council.

MEMBERS OF COMMITTEE ON LIBRARY AND INFORMATION SERVICES

Mr. F. A. Wilson, Chairman	Vice-President, Parke and Parke Limited, Hamilton
Mrs. M. L. Beckman	Deputy Chief Librarian, University of Guelph
Dr. O. B. Bishop	Associate Professor, School of Library Science, University of Toronto
Dr. J. A. Collyer (resigned October 1970)	Physician, London
Mrs. J. Forrester	Belleville, Ontario
Rev. Dr. R. Guindon	Recteur, Université d'Ottawa
Mr. N. D. Lewis (resigned August 1970)	President, Pergamon of Canada Limited, Toronto
Mr. D. A. Redmond	Chief Librarian, Queen's University, Kingston
Mrs. B. H. Robinow	Biomedical Librarian, McMaster University, Hamilton
<i>Mrs. D. Dudley, Secretary</i>	<i>Ontario Council of Health Secretariat</i>

ACKNOWLEDGEMENTS

Technical support in the preparation of this report was provided through the auspices of the Research and Planning Branch of the Ontario Department of Health. Under Dr. G. W. Reid, Director, the following staff members worked with the Committee:

Dr. J. R. Smiley	Senior Research Officer (Biostatistics)
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Miss J. Burness	Chief Librarian, Ontario Department of Health
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Recommendations

RECOMMENDATIONS

Supplement No. 4

LIBRARY AND INFORMATION SERVICES

COUNCIL ACTION

The Ontario Council of Health has approved the recommendations of the 1970 report of the Committee on Library and Information Services with the understanding that the categories of personnel described are not specific professional entities but rather a description of tasks that might be performed.

RECOMMENDATIONS

1. THAT, inasmuch as there are presently very few librarians especially qualified to work in the health sciences field, a vigorous programme be mounted to acquire the professional personnel necessary to staff the health sciences information network outlined in the Report of the Committee on Library Services to the Ontario Council of Health, June 1969.
2. THAT a majority of the professional staff mentioned in Recommendation 1, have particular qualifications in the area of information science and information specialties.
3. THAT major health libraries (hospitals, academies, universities, etc.) fill their future staff positions with librarians especially qualified in health information sciences and services.
4. THAT programmes of scholarship and assistance be continued and expanded in order to attract candidates with a bioscience or premedical background into training for health sciences information services.
5. THAT training programmes and courses for continuing education, made available by or on behalf of the health sciences information network, include the necessary assistance for all concerned persons to participate.
6. THAT library schools devote increased attention to the needs of

persons already working in health sciences libraries and information services. This might include some courses for degree programmes during the summer months for persons unable to devote extended periods to full-time studies. In particular, support should be given for courses in computer technology and its applications to health library sciences and services.

7. THAT, inasmuch as there are no health sciences library technicians trained in Ontario, a vigorous programme be mounted to acquire the technicians required to staff the health sciences information network.
8. THAT at least one or more community colleges offer specifically health-oriented courses as part of the library technician training programme.
9. THAT a health sciences librarian be included on the advisory committee for library technology courses at all community colleges offering such courses.
10. THAT short courses for library technicians without formal training in library technology be offered at one or more of the community colleges, at a time (e.g., summer or evening) when such persons could take advantage of this training. These courses should offer credits toward a diploma.
11. THAT community colleges provide at least half of the required library technician manpower, through courses in health sciences library technology, by graduating approximately ten per year.
12. THAT career opportunities in medical librarianship and medical information science be publicized in all career brochures dealing with the health or life sciences.

Report of the Committee

SECTION I

Introduction

In its report to Council in June 1969, the Committee on Library and Information Services presented a regionalized health library network. To a large extent the network would be based on extant facilities including all major health sciences centre libraries within the province. It is expected that library resources that need to be established where none exist now are some primary contact libraries at district level. It is envisaged that primary contact libraries (PCL) will be established near all significant concentrations of health personnel so that they may have immediate and ready access to health information. The back-up resource for the PCL's would be the health sciences library of the region.

Acceptance of this proposal will engender additional manpower resource in three principal areas: reinforcement of staff of extant facilities; provision of staff for specific network requirements at regional and provincial levels; and additional staff to provide for the new primary contact libraries that have to be established where no facilities presently exist.

It is out of this context that the development of the specific requirements for manpower have been generated. The original estimates of manpower, as presented in the Appendix "C" of the Committee's report to Council, were based on the requirements of the network were it instantaneously brought into existence in the year 1969. Clearly there will have to be a process of phased implementation of such a network over a period of time, and staff will be increased in a controlled and gradual fashion. Concurrently,

population growth will engender the need for more health services, health manpower, and, in turn, more health information service.

The manpower requirements set out in this report therefore take into account the two phases: implementation of the network over a ten-year period terminating in 1980; and natural growth of the network to meet the demands of an increasing population.

SECTION II

Recommendations

It is recommended:

1. THAT, inasmuch as there are presently very few librarians especially qualified to work in the health sciences field, a vigorous programme be mounted to acquire the professional personnel necessary to staff the health sciences information network outlined in the Report of the Committee on Library Services to the Ontario Council of Health, June 1969.
2. THAT a majority of the professional staff mentioned in Recommendation 1, have particular qualifications in the area of information science and information specialties.
3. THAT major health libraries (hospitals, academies, universities, etc.) fill their future staff positions with librarians especially qualified in health information sciences and services.
4. THAT programmes of scholarship and assistance be continued and expanded in order to attract candidates with a bioscience or premedical background into training for health sciences information services.
5. THAT training programmes and courses for continuing education, made available by or on behalf of the health sciences information network, include the necessary assistance for all concerned persons to participate.

6. THAT library schools devote increased attention to the needs of persons already working in health sciences libraries and information services. This might include some courses for degree programmes during the summer months for persons unable to devote extended periods to full-time studies. In particular, support should be given for courses in computer technology and its applications to health library sciences and services.
7. THAT, inasmuch as there are no health sciences library technicians trained in Ontario, a vigorous programme be mounted to acquire the technicians required to staff the health sciences information network.
8. THAT at least one or more community colleges offer specifically health-oriented courses as part of the library technician training programme.
9. THAT a health sciences librarian be included on the advisory committee for library technology courses at all community colleges offering such courses.
10. THAT short courses for library technicians without formal training in library technology be offered at one or more of the community colleges, at a time (e.g., summer or evening) when such persons could take advantage of this training. These courses should offer credits toward a diploma.
11. THAT community colleges provide at least half of the required library technician manpower, through courses in health sciences library technology, by graduating approximately ten per year.
12. THAT career opportunities in medical librarianship and medical information science be publicized in all career brochures dealing with the health or life sciences.

SECTION III

Categories of Personnel

Information services for the health sciences must depend on personnel trained to make best use of local and network resources, and with training and background suited to the level of service in which they operate. Three types of staff are needed: library assistants (clerical/office staff), technicians, and professional staff. Staff requirements in various information units can be outlined.

(1) Library Assistants

Library assistants perform routine tasks within established functions, following methods established and direction given by supervisory staff. Library assistants use many basic clerical and office skills, but in addition learn library functions and techniques special to the field of information handling.

(2) Library Technicians

Library technicians perform tasks requiring detailed knowledge of library functions, techniques and operations, with minimal supervision or with referral to senior technicians or professional supervisors for decisions on policy or interpretation of difficult situations. Their knowledge of library materials and operations enables them to render direct service to users, and to carry out many complete operations not requiring professional judgment and theoretical knowledge. Library technicians may operate a small library unit for daily routine operation, with supervisory visits from a librarian and access to professional assistance through the network.

(3) Professional Staff

This category of library personnel has given rise to some confusion, inasmuch as there are a number of sub-divisions whose occupational descriptions presumably connote significant differences but which, even in the world of library science, are on occasion used interchangeably. Currently in vogue are the terms *librarian**, *information specialist*, and *information scientist*. The terms *librarian* and *information specialist*, for example, are not mutually exclusive. Indeed, the word *information* may just as often be followed by *librarian* as by *specialist*. The terms indicate an emphasis on whether the library is concerned with a unit of material, such as a book, periodical, map, pamphlet, etc., or a unit of information, irrespective of the form of the material. A further difference is that traditional libraries generally exist to give what is asked for, while the libraries in subject specialty organizations attempt to anticipate the need for unrequested but relevant information.

For the purposes of this paper and for purposes of governmental planning in setting supply targets for appropriate mixes of professional manpower, this Committee has quite arbitrarily, but with some justification, defined the types of staff and their characteristics. Since we are considering only the health field, all will have not only a baccalaureate degree but also some health-related expertise which may of course be congruent with their original baccalaureate degree. The following table differentiates:

* *Librarians* are to be distinguished from *Medical Records Librarians* who are specialists in the use and care of patient and case health records. This report is concerned only with librarians, not with medical records librarians.

MINIMAL QUALIFICATIONS

Librarian Specialty	Basic Bachelor of Library Science (B.L.S.*)	B.L.S.* with Medical Library Options	B.A. or B.Sc. in one of the Life Sciences, or B.Sc.N. or M.D.	Degree in Computer or Information Retrieval Sciences
Medical Librarian	Yes	Yes	No	No
Medical Informa- tion Specialist	Yes	No	Yes	No
Medical Informa- tion Scientist	Yes	No	Yes	Yes
* In future, only an M.L.S. programme will be offered and, with time, the minimal qualification of B.L.S. will become redundant.				

While it is not mandatory for a medical librarian to have a degree in one of the life sciences, the Committee regards extra qualification to be essential should a medical librarian be promoted to head or chief health sciences librarian, particularly in an information-oriented library.

SECTION IV

Training

Appropriate training for each level of information services staff can be described in general terms, and the recognized or appropriate channels for sources of recruitment or training can be indicated.

(1) Library Assistants

Library assistants require high school graduation and some office skills (typing, filing). Knowledge of library functions and techniques is gained during the first year's employment. As experience is gained, a library assistant can assume progressively more responsible functions.

(2) Library Technicians

Library technicians have formal education, preferably at the post-secondary level, and a knowledge of library functions and techniques gained either by formal training or by extended experience. Under direction, a library technician is responsible for the effective performance of diversified and complex duties, and the application of judgment in using and interpreting defined policies, rules or standards. Several avenues are open for the recruitment, training and development of information technicians.

- (a) University graduates, preferably with a bioscience or pre-medical background, can learn library functions and techniques during the first year of employment in a large library,

under the supervision of librarians.

- (b) Registered nurses, biomedical laboratory technicians, and other persons with valuable background experience in the health sciences, may transfer to information services and learn library functions and techniques through similar means: on-the-job instruction, special in-service training courses, intensive short courses, and supervised work.
- (c) Library technician graduates, having completed a two-year diploma course in library technology at a College of Applied Arts and Technology or similar institution, may be attracted to health sciences information services. In-service training, or intensive short courses, may be needed to develop knowledge of the literature and needs of users in the health sciences. At the present time, not enough graduates of courses in library technology are employed in Ontario to enable any final appraisal of their exact value in the proposed information services.*
- (d) Library assistants with extensive experience (four to five years) and suitable in-service training (short courses, night school, direction and supervision by librarians) can develop to technician level. Regular performance reviews and assessments should be made of the progress and development of library assistants toward this objective.

(3) Professional Staff

(a) Medical Librarians

Librarians hold a first university degree followed by a degree or equivalent representing one or more years of professional education in librarianship. Medical librarians must in addition

* A colloquium on Employment of the Library Technician was held at St. Michael's College, Toronto, Dec. 6, 1968, by the School of Library Science, University of Toronto. Selected bibliography, job descriptions and summary proceedings are available from the School. The Medical Library Association has recently created a Committee on Library Technician Training and has approved a programme in Medical Library Technology at the Upstate Medical Centre, Syracuse, N.Y.

complete a course in the field approved by the Medical Library Association.* The independent professional function and judgment of trained health sciences librarians is required in every information centre giving intensive service. This includes larger hospital libraries (other than those institutions having only "basic units"), specialist and research institutes, and all schools of medical and health sciences.

Training of librarians is provided in schools of library and information science, many of which are accredited by the American Library Association** and all of which are attached to universities. Sufficient schools are available in the United States and Canada as a whole.

(b) Medical Information Specialists

For information service in the health sciences, a background in the biological sciences or health sciences is particularly valuable. A basic degree in biological, physical or health science, in nursing or a related field such as psychology, or completion of a premedical option within the bachelor's degree, will give a useful background in the terminology and method of science, and appreciation of the philosophy and approach of the health sciences librarianship, within the professional degree program, will give basic familiarity with the bibliographic tools and methods in the field. Scholarships offered by the National Research Council of Canada for scientific and technical librarianship are an example of inducements for qualified candidates. The expansion of programmes of scholarship and assistance is required to attract candidates with a bioscience or premedical background into training for health sciences information services.

* To obtain minimum certification (Grade I) by the Medical Library Association (MLA), Medical Librarians must in addition successfully pass a MLA approved course in medical librarianship.

To obtain advanced certification (Grade II), they must in addition have completed a medical library internship, or an earned master's degree in one of the disciplines applicable to life sciences librarianship, to librarianship, or to documentation, plus a year of professional experience in a library of recognized standing.

To obtain the highest certification (Grade III), the candidate must in addition have an earned doctoral degree in one of the disciplines applicable to life sciences librarianship, to librarianship, or to documentation, plus five years of professional experience in a medical library of recognized standing.

** Accreditation of library schools by the American Library Association is recognized in Canada by the Canadian Library Association.

(c) Medical Information Scientist

As has been shown in the chart in Section III, the Medical Information Scientist differs only in being qualified in the use of computers and associated technological methods of information retrieval. No particular standards have yet been established for this recently emergent class of professionals.

Better publicity of career possibilities in librarianship and the information sciences, in regard to challenge, promotion, status and salary, could aid in recruiting desirable candidates. The attention of the various concerned agencies — universities (both generally, and their library schools), health science institutions, concerned government agencies, professional associations in both librarianship and the health sciences — should be drawn to the need for intensified publicity and updated public image in the field.

Professional personnel should be encouraged to participate in continuing education programmes, and in activities of local and national professional associations. Paid leave and financial support to attend professional meetings and educational programmes should be consistent with that made available to other departments of the health care facility; training programmes and courses made available by or on behalf of the health sciences information network should include the necessary assistance for all concerned persons to participate. The Committee has also recommended that library schools devote increased attention to the needs of persons already working in health sciences libraries and information services. This might include some courses for degree programmes during the summer months for persons unable to devote extended periods to full-time studies.

SECTION V

Standards for Personnel

Standards for health sciences librarians, as already indicated, are those of the Medical Library Association. The Medical Library Association has approved standards for library technician programmes. The Ontario Department of Health could, in setting up a scheme of grants for health science information units, include standards for staff, which might be developed by this Committee on the lines suggested in Section IV, or adapt those under development by other professional associations.*

Standards available for information units in institutions, such as hospital libraries, include *Outline for the organization of hospital libraries* by Beatrix H. Robinow,** and publications of the Association of Hospital and Institutional Libraries, including standards now in revision.***

(1) Number of Staff

The quality of staff is the single most important factor in the effectiveness of the health sciences library. The total number of

* The Canadian Association of College and University Libraries has developed a Position Classification Report which includes all grades of library assistants and technicians as well as professional positions (1969).

** Toronto, Canadian Hospital Association, 1967. 96 p.

*** American Library Association, Association of Hospital and Institutional Libraries. Hospital Library Standards Committee. *Proposed standards for library services in health care facilities*. (Unpublished draft, 1968.) Also: Joint Commission on Accreditation of Hospitals. Draft revision (1969) of standards.

staff required in an information unit, other than the “basic unit” depends on:

(a) Service Load, made up of:

- i. **Users** The number of potential users; the type of user (medical and paramedical personnel; within the institution or facility, or outside it);
- ii. **Educational and research programmes** of the facility;
- iii. Size of institution* and intensity of programmes meeting patients’ needs;
- iv. Relationships established with other libraries (either to serve them or dependent on them for information).

(b) Dynamics of the information resources

A static library is a dead library; the constant appearance of new information requires constant growth of the collection and weeding of obsolete material. The staff required will be affected by collection size and growth which can be measured as:

- i. Volumes added annually;
- ii. Periodical titles currently received;
- iii. Holdings (total volumes and other forms of material).

(c) In a specialized information unit such as a health sciences library, detailed familiarity with the literature is the first requirement for professional staff. The service provided is correspondingly intensive. The patron is not only assisted, he is provided the information he requires. Standards which could be developed should therefore be used as *indications* rather than as literalisms.

* Bed Capacity is the usual measure of size for hospitals; number of research staff is the critical factor in specialized institutions. Where the number of students is definite, as in a medical school, the combination of number of teaching and research staff, and number of students, is the measure of size.

- i. One staff member may be added for every thousand volumes per *increment* in the current acquisition rate.* (Example: To add 5000 volumes a year requires one more staff member than to add 4000 volumes a year.)
 - ii. One staff member may be added for every *increment* of 400-500 current periodical subscriptions. (Example: A library receiving 800 current periodicals may have to add one staff member for the increased workload when it increases its subscriptions to 1200.)
 - iii. One added staff member may be needed for each defined increment in service to local users, i.e., within or close to the institution. Service load may be measured, for example, as circulation statistics or enrolment increase.**
- (2) Typical staff configurations or organization schemes could be indicated for a health sciences library of a specific size but as a *general guide only*. A specific recommendation could be made for a given situation by an experienced librarian or consultant. As an example, a *research unit* might require:
- (a) *At least one full-time* librarian, supported by *at least two* full-time library assistants, in an institution serving staff only during ordinary business hours (9-5 Monday-Friday).
 - (b) *Additional* staff on the basis of factors expressed above (a.iii.).
 - (c) At least two full-time librarians, supported by at least six library assistants/technicians, in any institution serving staff or students who are on the premises during extended hours (weekdays after 5 p.m., or weekends), the library maintaining service at appropriate times during those periods.

* The report on *Growth in ARL Libraries, 1950-1980* (Purdue University. Libraries and Instructional Media Research Unit. 1965) indicates that a 1000-volume increment in acquisitions *rate* costs an average \$13,750 in salaries.

** Ratio of library staff to research users varies from 1:122 to 1:30 in results tabulated by Strauss, Strieby and Brown, *Scientific and technical libraries* (N.Y.: Interscience, 1964), Table 1, p. 24. Herner and Heatwole. *The establishment of staff requirements in a small research library* (Chicago: Association of College and Research Libraries, 1952; ACRL Monograph No. 3) found a library staff of just over three librarians and three assistants needed for a scientific staff of 400. One staff member for each increment of 300 users has been suggested as one possible service-load standard.

- (d) Sufficient professional/technical staff to provide knowledgeable service to users during all periods when users are on the premises of the institution.
- (e) *At least five librarians* supported by appropriate library assistants and technicians, according to the standards of the Medical Library Association, for the library of any health sciences centre.

SECTION VI

Distribution of Personnel

(1) Primary Contact Libraries

Information service units will vary, not only in number of staff needed but in the level of staff appropriate to the complexity of service offered, the complexity of informational resources, and the questions posed by users.

- (a) Basic health information units containing minimal-level collections should have a minimum of one library technician. This technician can maintain and exploit the small collection, and, where the local resources are insufficient, interpret and send forward inquiries from the individual user to the higher levels of the network. This information technician should be assigned full-time to the information unit.
 - i. Consultation by *professional field staff* must be routinely available to basic units. A library technician needs and deserves the advice, support and supervision of a librarian. To maintain the close liaison with an information network, this professional consultation should be provided from the provincial network co-ordinating unit for any unit which does not have its own professional staff.
 - ii. Supporting *clerical and office services* should be available to the basic health information unit through the institution's offices, even if supporting clerical staff cannot be

assigned exclusively to the information unit. As the size of unit grows, one or more supporting clerical staff may be required by the unit itself.

- (b) *Specialist units and research and teaching units* with extensive information resources, and intensive service responsibilities within their own institutions, as well as co-ordination or specified responsibility to the information network, will require professional staff (librarians) supported by library assistants and technicians. A minimum will be one librarian supported by not less than two office/technical staff. Additional librarians may be needed to supply extensive information service with their specialized knowledge; and for each professional position not less than two supporting staff must be available.

(2) Health Resources Libraries

Health Resources Libraries require trained librarians supported by adequate numbers of library assistants and technicians. The usual distribution of positions will be, for each professional staff member, supporting staff on one library technician and one to two library assistants.

- (a) *The primary staff of the library, considered as a functional library apart from the network*, will be not less than five librarians* and a suitable supporting staff of 10 more positions. The total staff will vary with the size, responsibilities and objectives of the library, and should be determined by the librarian in charge. A large health resources library will have upward of 15 to 20 staff.
- (b) Ideally, reference and information service to the *network* might be available twenty-four-hours-a-day, seven-days-a-week, requiring at least four librarians. Actual network service may be available during extended hours but less than 168 hours a week. The undivided services of not less than three librarians are likely to be required for network information service. Network service facilitated by adequate telecommunications may make it feasible to give service at slack periods from a single resource centre for the whole province, thus reducing slightly the total requirement for professional staff.

* Medical Library Association standards.

SECTION VII

Estimated Total Staff Needed in Ontario

(1) The number of information staff needed would depend on network design, number of centres designated at the various levels of service, and support schemes to encourage provision of information service. An estimate of the minimum *order of magnitude* of staff needs for a hypothetical network could be made from available information on health care facilities. The following estimates are based on hospitals in Ontario and exclude such facilities as public health laboratories and medical clinics.

(a) **Hospitals:*** In Ontario there are 20** Group A (teaching) hospitals in five centres: Hamilton, Kingston, London, Ottawa, and Toronto. These centres are also the locations of the (university) health sciences teaching centres with their libraries. There are 55 Group B and C (non-teaching) hospitals (of 200 beds or over) in 31 other centres, and in four Metropolitan Toronto boroughs.

i. Each teaching hospital requires its own research level library: 20 hospitals, with libraries of Level 2, require 20 librarians and 40 support staff*** comprising 20 library technicians and 20 librarian assistants.

* Ontario Hospital Services Commission; 1969, Annual Report, Statistical Supplement.

** The Clarke Institute of Psychiatry, Toronto, is for these purposes regarded as a teaching hospital.

*** Recommended ratio of two support staff per professional librarian: Joint Committee of the Association of American Medical Colleges and the Medical Library Association. "Guidelines for medical school libraries." *J.Med.Educ.* 40 No. 1 pt. 1 (Jan. 1965) p. 23.

- ii. At least one primary contact library (PCL) as a *minimum* in each city having one or more non-teaching general hospitals of 200 or more beds; or preferably, a primary contact library in every such hospital and a professional librarian in each centre. Counting four Metro Toronto boroughs there are a total of 35 centres to be considered.

Minimum need: 35 centres require 35 library technicians for 35 PCL's.

Potential need: For 55 hospitals in 35 centres.

35 librarians (1 per centre)
 35 library assistants (1 per centre)
 55 library technicians (1 per PCL)

- iii. There are 177 other hospitals in the province comprising mental, chronic, and the smaller size general hospitals. These are located in 146 centres excluding centres considered under items (i.) and (ii.) above. Assuming one PCL with one technician in charge in each additional centre, 146 library technicians will be required.
- (b) **Health sciences centres:** There are five present university health sciences centres. One additional university medical school may be in prospect. Aside from this, the Toronto metropolitan situation may require two intensive information service centres (resource libraries), or one such centre additional to the University of Toronto library in order to distribute the load. Assume that each of six resource libraries requires *five librarians, five technicians and five assistants* each as a *minimum* or, potentially, eight of each category.*
- (c) **Network resource centres:** Assume that six major health regions may be designated in Ontario, and that the network information responsibility is given to one health sciences

* A minimum of five professional librarians is recommended: A. N. Brandon, "The development and organization of a new medical school library." *Bull. Med. Lib. Assn.* 52: 188-195. Present professional staff in the university health science libraries of Ontario (1970) total 27 full-time-equivalents of whom 13 are in the University of Toronto system, or a rounded average of six librarians for each. The average for Canadian medical libraries is currently 4.9 librarians and 11.9 support personnel. It should be noted that in all cases these figures refer to people actually employed and not to established positions, some of which are normally vacant through turnover, attrition, promotion and so forth.

library in each region *over and above* its primary staff. For the *additional* network service, each such library would have to add four librarians and at least one supporting staff member for each librarian, to give extended information service:

Minimum need	Potential need
18 librarians	24 librarians
18 library technicians	24 library technicians

- (d) **Co-ordinating staff:** Assume that an established primary contact library requires supervision by a librarian, on demand or routinely, not less than the equivalent of one day a month. A staff of field co-ordinators will be needed. Each such co-ordinating librarian can serve not more than 20 primary contact libraries. For the total of at least 251 PCL's in the province, 12 field co-ordinators attached to the regional Health Resources Libraries would be needed. Each field staff member will need at least one supporting (office) staff member:

12 librarians
12 library assistants

(2) Total estimated staff requirements:

Minimum need	Potential need
80 librarians	139 librarians
249 library technicians	293 library technicians
62 library assistants	115 library assistants

These estimates, of necessity, have been derived from correlative information. Adequate data was not available on distributions of health manpower and therefore hospital data were used on the assumption that most institutions would be at or near foci of groups of health personnel. As expressed earlier, only a minimum order of magnitude of staff needs was sought and therefore the following rounded estimates have been used in the development that follows:

100 librarians
275 library technicians
100 library assistants

SECTION VIII

Evaluation

Supervision and liaison must be constantly available to ensure smooth operation of an information network, availability of information to the user at every terminal of the network, and best use of the funds invested in the network. Such supervision and liaison must be provided at a high level of professional development in librarianship. It must be provided in part by the close co-operation of the professional staff in large information facilities, and most importantly by a supervisory field staff provided by the network, and available both on call and routinely to those information facilities which do not have senior professional staff, or which have no professional staff. The definition of types of personnel has adequately indicated that library assistants and technicians perform duties within a frame of policy, method, and procedure developed with professional knowledge, and require supervisory assistance and consultation and advice on policy or interpretation of difficult situations. Recourse to the network information service is not sufficient for the procedural minutiae which can be settled with on-the-spot supervisory assistance. In each major centre (the 35 centres indicated), some professional assistance is likely to be available from librarians; but there must, in addition, be a field staff of librarians available in every region.

SECTION IX

Manpower Supply

There are no data which depict the historical and current distributional patterns as well as total numbers of personnel who staff health and health-related libraries and reference centres in Ontario institutions. Only glimpses are afforded from time to time. The Canadian Census provides some data but its occupational classification code includes medical records librarians under librarians. The Education Division of the Dominion Bureau of Statistics makes an annual "Survey of Libraries" but the health field is subsumed in part under the general category of academic libraries as opposed to public libraries. Finally, there are the very incomplete data obtained in sporadic surveys of libraries and/or personnel in various sectors of the health field. Clearly there is a need to carry out a definitive survey for this purpose.

The following tables have been prepared in order to illustrate the aforementioned points, to obtain some estimate of the pool of librarians in Ontario, and to obtain some estimate of the numbers of those who might supply suitable manpower for the health library network. The most recent estimates of librarian manpower in Ontario are shown in Table 1.

The Census of 1966 did not yield occupational information. However, for intercensal years the Education Division of the Dominion Bureau of Statistics provides an alternative source of data. (From its annual Surveys of Libraries begun in 1921.)

Table 2 summarizes the data from this source for the year 1961,

This table completes the process of distillation of professional librarians from the original census estimate of 1,663 persons in the occupational field. However, the 594 professional librarians, B.L.S. or equivalent, did not include those employed by libraires which did not respond to the DBS survey. Their true number may be in excess of 600.

Since the data from the DBS survey are related to both educational institutions *including schools and colleges with centralized libraries*, and public libraries, the difference between an estimated 911 total and the 594 professional librarians in part can be ascribed to employment of persons without B.L.S. as well as to government research centres, hospitals, professional academies and the like. Presumably there are about 300 in this sector. The number employed in the health field would be anyone's guess.

For some indication in trends in employment (in the educational sector) we turn to Table 3, from the same source.

TABLE 3

TRENDS IN EMPLOYMENT				
Academic Libraries (including elementary and secondary schools)				
Year	No. of Libraries	Library Staff		
	Reporting	Prof.	Other	Total
60/61	525	182	339	521
61/62	580	232	410	642
62/63	578	245	574	819
63/64	961	290	806	1,096
64/65	843	392	1,087	1,479

The average annual growth rate for professionals during the four year period was $(210/182 \times 100/4)$ or 29 per cent, their numbers more than doubling. The validity, however, is questionable in that the data came only from reporting libraries which, further, do not necessarily report each year. This may in part explain the anomaly of 1963/64.

Because the role of university libraries is more akin to that played by health-related libraries, the following Table 4 was derived from the DBS Survey of Libraries Part II for the indicated years.

TABLE 4

TRENDS IN UNIVERSITY LIBRARIES							
Ontario 1961-68							
Year	Number of Libraries	Library Staff			Users	Users per Profes- sional	Other Library Staff per Profes- sional
		Profes- sional	Other	Total			
61/62	23	160	326	486	39,923	250	2.04
62/63	24	190	401	591	42,449	223	2.11
63/64	28	223	531	754	47,573	213	2.38
64/65	28	276	699	975	55,376	197	2.54
65/66	28	327	795	1,122	61,721	189	2.43
66/67	27	412	1,202	1,614	74,683	181	2.92
67/68	29	464	1,486	1,950	89,338	193	3.20

The average annual growth rate remains essentially the same over this longer period — 32 per cent. As can be seen from the user per professional ratio, this has been sufficient to reduce the ratio to below 200. There may be some indication of a levelling off. However, in terms of non-professional staff per professionals the ratio undergoes a monotonic increase (1964-65 excepted) to a point where more than three persons assist each professional librarian. There could be a continuance of the trend to increase service to the user population by extending more support (both non-professional and technological) to professionals rather than by increasing their numbers.

It is interesting to speculate whether the same current ratios apply to the health services. If one assumes approximately 110,000 health personnel from all the disciplines, primary and allied, then the mathematically expected number would be 570 professional

librarians and 1,824 library assistants, technicians and clerks. Because university libraries do include health sciences libraries, for instance, these 570 and the 464 from Table 4 are not mutually exclusive.

Within the university setting there are some data on sex distribution* for the years 1961-65:

Year	Male		Female	
	No.	%	No.	%
61/62	52	32	108	68
62/63	57	30	133	70
63/64	72	32	151	68
64/65	84	30	192	70

The profession, being two-thirds female, is unlike nurses, hygienists, and physiotherapists, for example, and therefore high attrition rates normally experienced by the latter professions should not be ascribed in full measure to librarians. Therefore some compromise figure between 3 per cent for essentially male professions and 10 per cent for nurses and hygienists should be struck. Six per cent will be assumed for want of better evidence.

* From DBS Surveys of Libraries Part II Academic. Sex not given from 1965/66 to date.

SECTION X

Projected Demand

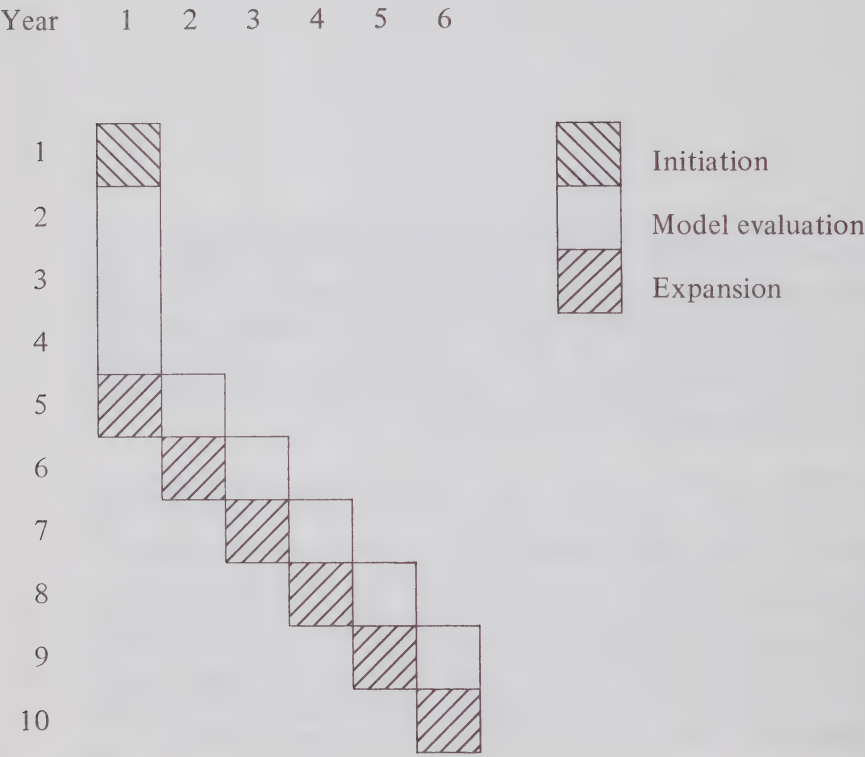
Notwithstanding the speculative mathematically-expected 570 professional and 1,824 other staff estimated from Table 4, the Committee projections are based on the more conservative estimates drawn from hospital distributions and probable network demands, namely: 100 librarians, 275 library technicians, and 100 library assistants. As was indicated earlier, these estimates serve merely as a guide to the minimum order of magnitude.

In order to arrive at some reasonable estimate of the demand impact over time, a ten-year scale was chosen as of 1971. It was conceptualized that implementation of the network would take place region by region, each one being developed in two years – one year for an evaluative model and one year for expansion to full region size. The six regions could overlap successively by one year. But the first region will take about one and one half years to initiate a pilot or model project. In this first phase, thorough evaluation must take place, and therefore two and one half years have been allowed.

FIGURE 1

PHASED IMPLEMENTATION OF A PROVINCIAL
HEALTH INFORMATION NETWORK

REGION



A further assumption is made that regions will be of the same size and require the same staff, viz., 17 professionals, 34 assistants, and 34 technicians. Further, in each region half of the staff must be available for the evaluative phase. The result is Table 5.

SECTION XI

Projected Supply

Under this subject heading, it must be made clear that the manpower being sought for the health information network refers only to those with some competency in library techniques related to the health field. Nevertheless, to set the stage, we begin with the total output from Ontario schools of library science (Table 6) and from courses in library technology (Table 9).

This year, in Ontario, no B.L.S. degree one-year programme will be offered and all candidates for library science training will be required to take a two-year programme leading to M.L.S. The prerequisite for either the B.L.S. or the M.L.S. has always been a baccalaureate degree in some field.

The key issue in Table 6 is the fact that there are only 100 ($52 + 1 + 29 + 11 + 7$) graduates out of 1,672 ($384 + 3 + 1,214 + 44 + 27$) graduates, from schools in Ontario during the past ten years, who fulfil the qualifications for staffing the health information network. This gives an annual average output of only 10 persons. If graduates from only accredited schools are included, the output is halved. Since it would appear that all schools will be accredited within the next few years, the output will be taken as 10 per year.

The Committee estimates that about 10 persons with these qualifications are at present working within the health sector of information processing. The table for projected supply of professional health librarians is then constructed on the following premises: The present supply is 10. The average annual output is 10 per year

TABLE 7

PROJECTED SUPPLY: FIVE GRADUATES PER YEAR							
Beginning of Year	Professional Health Librarians	Demand per Table 5	Manpower Gap	Attrition 6%	Graduates from Ontario Schools	Net Change	Number of Professionals by End of Year
1970	10	0	+10	1	5	4	14
1971	14	0	+14	1	5	4	18
1972	18	8	+10	1	5	4	22
1973	22	8	+14	1	5	4	26
1974	26	8	+16	2	5	3	29
1975	29	25	+ 4	2	5	3	32
1976	32	42	-10	2	5	3	35
1977	35	59	-24	2	5	3	38
1978	38	76	-38	2	5	3	41
1979	41	93	-52	2	5	3	44
1980	44	102	-58	3	5	2	46

The data of Table 7 were reworked, assuming all 10 graduates per year to be available to the health sector from the outset. As can be seen, the gap between supply and demand does not appear until 1978. In light of these figures, it is probable that a drive to recruit people, for example as health librarians, as of 1970 may just meet the demand, provided the process continues until at least 15 per year are being graduated into the health sector by 1975-1976. It should be kept in mind that there is of necessity a two year delay between recruitment into training and graduation, the B.L.S. one year program having been phased out.

TABLE 8

PROJECTED SUPPLY: TEN GRADUATES PER YEAR							
Beginning of Year	Professional Health Librarians	Demand per Table 5	Manpower Gap	Attrition 6%	Graduates from Ontario Schools	Net Change	Number of Professionals by End of Year
1970	10	0	+10	1	10	9	19
1971	19	0	+19	1	10	9	28
1972	28	8	+20	2	10	8	36
1973	36	8	+28	2	10	8	44
1974	44	8	+36	3	10	7	51
1975	51	25	+26	3	10	7	58
1976	58	42	+16	3	10	7	65
1977	65	59	+ 6	4	10	6	71
1978	71	76	- 5	4	10	6	77
1979	77	93	-16	5	10	5	82
1980	82	102	-20	5	10	5	87

One might further speculate that, with the province graduating over 300 professional librarians annually (Table 6), the market will become saturated. Indeed there appear to be indications today that the point may well have been reached. The net effect may be to force current and future students into areas of specialization such as medical library science but, at the same time, with an obvious market imbalance, students with life science backgrounds may choose not to enter the librarian profession.

Insofar as library assistants are concerned, no recruitment problems can be foreseen in gradually acquiring the 100 needed by 1981 (Table 5). The standards for this group are such that the assumption is reasonable.

Library technicians, however, pose a different problem. Communication with Miss June Monroe of the Provincial Library Services, regarding her unpublished survey of library technician training, yields the following information:

TABLE 9

GRADUATES FROM COURSES IN LIBRARY TECHNOLOGY

Institution	1967	1968	1969
Lakehead University	nil	15	21
Ryerson*	nil	nil	12
Cambrian CAAT	nil	nil	9
Niagara CAAT	nil	nil	14
St. Clair CAAT*	nil	nil	4
Seneca CAAT*	nil	nil	21
TOTAL	Nil	15	81

* These institutions offer extramural courses, late afternoons and evenings.

Two other institutions, Fanshawe CAAT and Sheridan CAAT, are mounting courses and a third, Algonquin, is planning a course. None of the courses, in being or planned, has any health sciences content such as the Committee recommended in its report to Council, June 1969. Obviously, none of the graduates has been long enough employed for a meaningful evaluation of their worth to the information field. On the other hand, it is accepted that nurses, allied health personnel and university graduates, given adequate contact training, can become very useful library technicians.

In light of this and of the suggested supply of professionals to achieve a full network staff complement of some 100 by 1981, an active program should be mounted to attract technician candidates from both these groups at treble the rate for professionals.

At least one CAAT should be encouraged to offer a health-oriented course so that a supply of formally trained technicians might become available for evaluation purposes.

